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UTILITY PATENT APPLICATION TRANSMITTAL UNDER 37 C.F.R. §1.53(b)

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Box PATENT APPLICATION

Washington D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of

INVENTOR OR APPLICATION IDENTIFIER: Dae Won JANG and Hee Jung LEE

FOR: METHOD FOR TRANSMITTING EMERGENCY CALL OF MOBILE PHONE

Enclosed are:

1. ☒ 15 pages of specification, claims, abstract
2. ☒ 3 sheets of FORMAL drawing.
3. ☒ 2 pages of newly executed Declaration & Power of Attorney (fax original).
4. ☒ Priority Claimed to Korean Appln. No. 41802/1999, whose entire disclosure is incorporated herein by reference.
5. ☐ Small Entity Statement.
6. ☐ Information Disclosure Statement, Form PTO-1449 and reference.
7. ☒ Assignment Papers for LG Electronics Inc. (cover sheet, assignment & assignment fee).
8. ☐ Certified copy of _____.
9. ☒ Two (2) return postcards.
☒ Stamp & Return with Courier.
☒ Prepaid Postcard-Stamped Filing Date & Returned with Unofficial Serial Number.
10. ☒ Authorization under 37 C.F.R. §1.136(a)(3).
11. ☐ Other:

CLAIMS AS FILED

For	No. Filed		No. Extra	Rate	Fee
Total Claims	16	- 20	0	X \$18.00	\$0.00
Indep. Claims	4	- 3	1	X \$78.00	\$78.00
Multiple Dependent Claims (If applicable)				X \$260.00	\$0.00
BASIC FEE					\$690.00
TOTAL FILING FEE					\$768.00

☐ This is a Continuation-in-part (CIP) of prior application No: _____ filed _____. Incorporation By Reference-The entire disclosure of the prior application is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

☐ Amend the specification by inserting before the first line the sentence:

-This application is a continuation-in-part of Application Serial No. _____ filed _____.--

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- ☒ Any filing fees under 37 C.F.R. 1.16 for presentation of extra claims.

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METHOD FOR TRANSMITTING EMERGENCY CALL OF MOBILE PHONE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for transmitting an emergency call of a mobile phone.

2. Description of the Background Art

Figure 1 illustrates a general mobile phone (mobile terminal).

As shown in the drawing, the mobile phone includes a main body 1, an LCD 2, and a key pad unit 3 provided with keys for inputting a phone number and a text data and other various function keys. In this respect, the function keys refer to keys for searching, storing, deleting and menu selection keys.

A communicating method of the mobile phone constructed as described above will now be explained.

1) General communication

When a mobile phone is powered-up, it receives a pilot channel, a synchronous channel and a paging channel through a forward channel between the mobile phone and a base station, by which the mobile phone is ready for providing service to a user.

In this state, a user inputs a phone number of a called party by operating a key pad (3) of the mobile phone. And, the user confirms whether the phone number of a called party has been properly inputted through the LCD 2. Upon

confirmation of proper inputting, the user presses a communication key (or 'SEND'). Then, a call is established between the user and the called party through a base station, a base station controller and a mobile switching center, so that the user can communication with the called party by means of the mobile phone.

At this time, the signal is transmitted from the mobile phone to the base station through a reverse channel. That is, a voice or (a data) and signal information are transmitted via a reverse communication channel, while a response to a message received via a paging channel is transmitted via an access channel.

2) Emergency communication

A phone number for an emergency call is distinguished from general phone numbers. For example, a phone number for a crime report is 112 and a phone number for a fire or a disaster reports is 119. Accordingly, the user directly inputs a phone number for an emergency call by operating the key pad (3) of the mobile phone to communicate with a called party in the same manner as the general communication.

In detail, the user inputs a phone number, i.e., '112', for an emergency call through a normal dialing method. The inputted phone number ('112') is compared with a mapping table stored in a memory unit (not shown) of the mobile phone, to check whether there is a corresponding phone number ('112') in the mapping table. At this time, in case that the corresponding phone number ('112') exists in the mapping table, its area position is identified to check whether the corresponding phone number ('112') is identical to the emergency call number of the recognized area.

of the foreign country or to store the emergency phone number in a memory unit of the mobile phone.

Therefore, in the past, unless the user is aware of the emergency phone number of the foreign country where he or she stays and uses use a mobile phone, or unless the user is aware of a one-touch dial number or its manual, the user can not use the emergency call or time for calling an emergency call is delayed.

SUMMARY OF THE INVENTION

Therefore, an object of the present invention is to provide a method for transmitting an emergency call of a mobile phone which is capable of making an emergency call promptly in occurrence of emergency situation.

Another object of the present invention is to provide a method for transmitting an emergency call of a mobile phone which is capable of automatically making an emergency call by having an additional key for an emergency call.

To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described herein, there is provided a method for transmitting an emergency call of a mobile phone including the steps of: receiving position recognition information from a base station via a forward channel in roaming a mobile terminal; varying a search position on an emergency call mapping table previously stored in a memory according to the received position recognition information; and transmitting a call by a phone number set on the varied search position when an emergency call is inputted.

To achieve the above objects, there is also provided a method for transmitting an emergency call of a mobile phone including the steps of: updating and storing position recognition information received from a base station in a memory; comparing the position recognition information stored in the memory and the position recognition information pre-set in the mapping table to recognize an emergency call number; and trying to transmit an emergency call by using the recognized emergency call number.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and together with the description serve to explain the principles of the invention.

In the drawings:

Figure 1 illustrates a general mobile phone (mobile terminal).

Figure 2 illustrates a mapping table storing MCC and emergency phone numbers by countries adopted in the present invention;

Figure 3 is a flow chart of a process of updating and storing an MCC in a method for transmitting an emergency call of a mobile phone in accordance with a first embodiment of the present invention;

Figure 4 is a flow chart of a process of transmitting an emergency call in the method for transmitting an emergency call of a mobile phone in accordance with the first embodiment of the present invention;

Figure 5 is a flow chart of a process of updating and storing an MCC in a

method for transmitting an emergency call of a mobile phone in accordance with a second embodiment of the present invention;

Figure 6 is a flow chart of a process of transmitting an emergency call in the method for transmitting an emergency call of a mobile phone in accordance
5 with the second embodiment of the present invention;

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Reference will now be made in detail to the preferred embodiments of the
10 present invention, examples of which are illustrated in the accompanying drawings.

In the present invention, a key for transmitting an emergency call is additionally designated in a mobile phone or a specific key, i.e., number '9' key (generally it is displayed in a red color) is designated for a one-touch key, thereby making an emergency call. Therefore, the method for transmitting of an
15 emergency call of a mobile phone is operable by software, without requiring any additional element in terms of hardware.

In addition, as shown in Figure 2, the mapping table including the MCCs and emergency call numbers by countries is stored in the memory region of the mobile phone. Accordingly, an worldwide database of emergency call numbers
20 can be constructed by corresponding emergency call number used by countries or areas to the MCC, that is, a country code, by using the mapping

Method for transmitting an emergency call of a mobile phone will now be described in detail.

When the mobile phone is first powered-up, the mobile phone receives a
25 pilot channel, a synchronous channel and a paging channel via a forward channel

from a base station, and in this state, the mobile phone receives an extended system parameters message (ESPM) among overhead messages of the paging channel. The ESPM includes a field having the MCC (Mobile Country Code) values, so that the mobile phone stores the MCC field values upon receipt of the
5 ESPM.

The paging channel can be largely divided into an overhead message transmitted to every mobile phone in a service area and a personal station directed message transmitted to a specific mobile phone. The overhead message includes information related to connection of a mobile station, frequency
10 information of a base station, information on international roaming and information on neighboring base station. The personal station directed message includes a message for paging, a command and a channel allocation message.

And, the mobile phone includes a first register storing an inherent MCCp and a second register for storing the MCCs transmitted through the ESPM.
15 Accordingly, the mobile phone stores the initial data transmitted from the base station in the MCCs, and compares it with a data periodically transmitted from a base station, to thereby update the data.

Figure 3 is a flow chart of a process of updating and storing an MCC in a method for transmitting an emergency call of a mobile phone in accordance with a
20 first embodiment of the present invention and Figure 4 is a flow chart of a process of transmitting an emergency call in the method for transmitting an emergency call of a mobile phone in accordance with the first embodiment of the present invention.

With reference to Figure 3, when the overhead message is received from the base station, a mobile station modem (MSM) of the mobile phone updates the
25 MCCs value of the second register whenever a new ESPM is received (S10~S12).

In a state that the second MCCs is stored in the second register, when an emergency key provided with the mobile phone is depressed by the user or the number '9 key' is depressed for a long time by the user, to make an emergency call (S20), as shown in Figure 4, the MSM recognizes that.

5 Upon recognizing the emergency call transmission, the MSM sequentially searches the mapping table as shown in Figure 2 to find out an MCCm identical to the MCCs stored in the second register (S21, S22).

And then, when an MCCm identical to the MCCs is searched, the MSM read out an emergency call number corresponding to the MCCm from the mapping table, attaches the read emergency call number to a destination number field of the message to be transmitted and tries to make an emergency call (S23, S24).

Figure 5 is a flow chart of a process of updating and storing an MCC in a method for transmitting an emergency call of a mobile phone in accordance with a second embodiment of the present invention, and Figure 6 is a flow chart of a process of transmitting an emergency call in the method for transmitting an emergency call of a mobile phone in accordance with the second embodiment of the present invention

With reference to Figure 5, when a new ESPM is received, the MSM stores the MCCs in the second register (S30~S32). At the same time, the MSM searches an MCCm identical to the MCCs from the mapping table and stores its emergency call number corresponding to the searched MCCm in a phone book (S33). And then, the MSM links a read address of the phone book storing the emergency call number to the emergency call key or to '9 key' (S34). That is, in case of using the '9 key' as a one-touch dial, the emergency call number is stored

in the address '0' of the phone book.

Accordingly, as shown in Figure 6, when the one-touch dial, the '9' key' is depressed by the user (S40), the emergency call number stored in the address '9' of the phone book is read and making an emergency call is automatically tried (S41, S42).

As so far described, according to the method for transmitting an emergency call of a mobile phone of the present invention, after the MCCm identical to the MCCs provided from the base station is searched, the emergency call number corresponding to the searched MCCm is read out from the mapping table, thereby trying to making an emergency call.

In addition, according to the method for transmitting an emergency call of a mobile phone of the present invention, after the MCCm identical to the MCCs provided from the base station is searched, the emergency call number corresponding to the searched MCCm is stored in the phone book. And then, the read address of the phone book in which the emergency call number has been stored is linked to the emergency calling key or '9' key.

Accordingly, even though the user is not aware of the emergency call number of a country or an area where he uses his mobile phone to make an emergency call or even though he or she is not aware of a one-touch dial number or a manual for making a call, the user can easily make an emergency call.

Moreover, by linking the read address of the phone book, in which the emergency call number has been stored, to the key for making an emergency call, making an emergency call can be promptly performed automatically by one-time key manipulation.

As the present invention may be embodied in several forms without

departing from the spirit or essential characteristics thereof, it should also be understood that the above-described embodiments are not limited by any of the details of the foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds of the claims; or equivalence of such meets and bounds are therefore intended to be embraced by the appended claims.

What is claimed is:

1. A method for transmitting an emergency call of a mobile phone, comprising the steps of:

5 receiving position recognition information from a base station via a forward channel in roaming a mobile terminal;

varying a search position on an emergency call mapping table previously stored in a memory according to the received position recognition information; and

10 transmitting a call by a phone number set on the varied search position when an emergency call needs to be transmitted.

2. The method according to claim 1, wherein the position recognition information refers to a Mobile Country Code.

15 3. The method according to claim 1, wherein the emergency call mapping table includes position recognition information allocated by countries and emergency call numbers corresponding to the position recognition information.

20 4. The method according to claim 1, wherein, in the step of varying a search position, a search position on the emergency call mapping table pre-set when the user is staying in a different area is shifted to a region in which the same position information as the currently received position recognition information is stored.

25 5. A method for transmitting an emergency call of a mobile phone

comprising the steps of:

updating and storing position recognition information received from a base station in a memory;

5 comparing the position recognition information stored in the memory and the position recognition information pre-set in the mapping table to recognize an emergency call number; and

trying to transmit an emergency call by using the recognized emergency call number.

10 6. The method according to claim 5, wherein the emergency call mapping table includes position recognition information allocated by countries and emergency call numbers corresponding to the position recognition information.

15 7. The method according to claim 5, wherein the position recognition information stored in the memory is periodically transmitted through an extended system parameters message from a base station.

20 8. The method according to claim 5, wherein recognizing of an emergency call transmission is performed by inputting of a key for an emergency call transmission or a key that is depressed for a long time.

9. A method for transmitting an emergency call of a mobile phone, comprising the steps of:

25 receiving position recognition information from a base station via a forward channel in roaming a mobile terminal;

searching an emergency call mapping table previously stored in a memory according to the received position recognition information and setting an emergency call number;

linking the set emergency call number to a one-touch dial; and

5 transmitting an emergency call by using the one-touch dial as an emergency call is inputted.

10 10. The method according to claim 9, wherein the emergency call number is stored in a phone book.

11. The method according to claim 10, wherein a read address of the phone book is identical to the number of the one-touch dial.

12. The method according to claim 9, wherein the position recognition
15 information is a Mobile Country Code.

13. The method according to claim 9, wherein the step of setting an emergency call number comprising sub-steps of:

20 searching the same position recognition information as the received position recognition information from the mapping table; and

storing an emergency call number set as being corresponded to the search position recognition information in the phone book.

25 14. A method for transmitting an emergency call of a mobile phone, comprising the steps of:

allocating position recognition information and an emergency call number to a mapping table;

updating and storing position recognition information that is periodically received from a base station;

5 searching an emergency call number by comparing the position recognition information stored in the first memory and in the mapping table and storing the emergency call number in a second memory; and

10 linking a read address of the emergency call number to a one-touch dial and making an emergency call by using the one-touch dial when an emergency call is inputted.

15 15. The method according to claim 14, wherein the position recognition information stored in the first memory is transmitted through an extended system parameters message.

16. The method according to claim 14, wherein the second memory is a phone book.

ABSTRACT OF THE DISCLOSURE

A method for transmitting an emergency call of a mobile phone includes the steps of: receiving position recognition information from a base station via a forward channel in roaming a mobile terminal; varying a search position on an emergency call mapping table previously stored in a memory according to the received position recognition information; and transmitting a call by a phone number set on the varied search position when an emergency call needs to be transmitted. With this method, even though the user is not aware of the emergency call number of a country or an area where he uses his mobile phone to make an emergency call or even though he or she is not aware of a one-touch dial number or a manual for making a call, the user can easily make an emergency call. Moreover, by linking the read address of the phone book, in which the emergency call number has been stored, to the key for making an emergency call, making an emergency call can be promptly performed automatically by one-time key manipulation.

FIG. 1
BACKGROUND ART

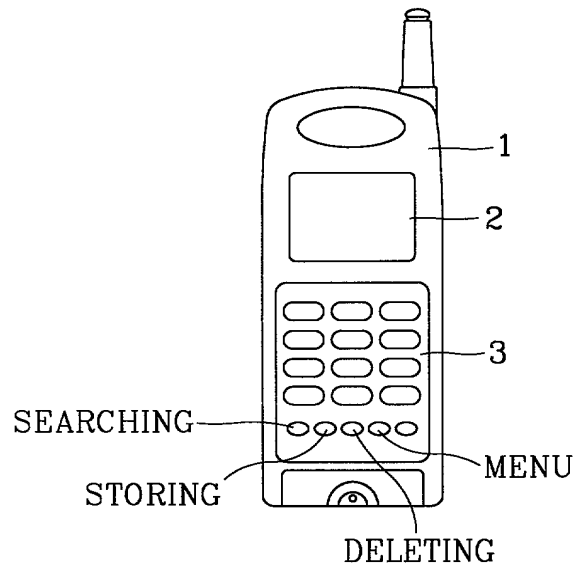


FIG. 2

COUNTRY	MCC _m (MOBILE COUNTRY CODE)	EMERGENCY #
KOREA	450(0x15d)	119
USA	(0x3ff)	911
CANADA	(0x302)	911
BRAZIL	724	190
PERU	051	911
VENEZUELA	058	911
CHILE	730	911
MEXICO		911
JAPAN		119
NEW ZEALAND		111
SINGAPORE		995
EUROPEAN		112
⋮	⋮	⋮

FIG. 3

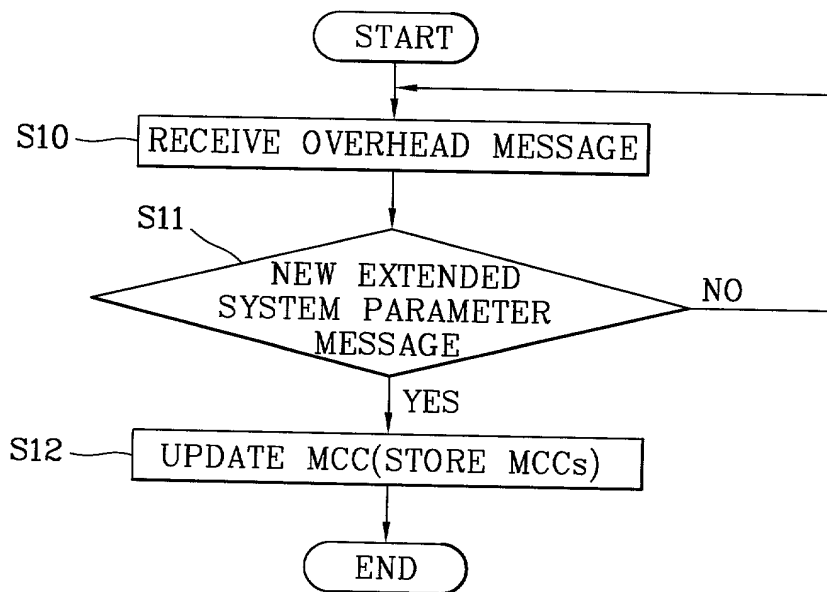


FIG. 4

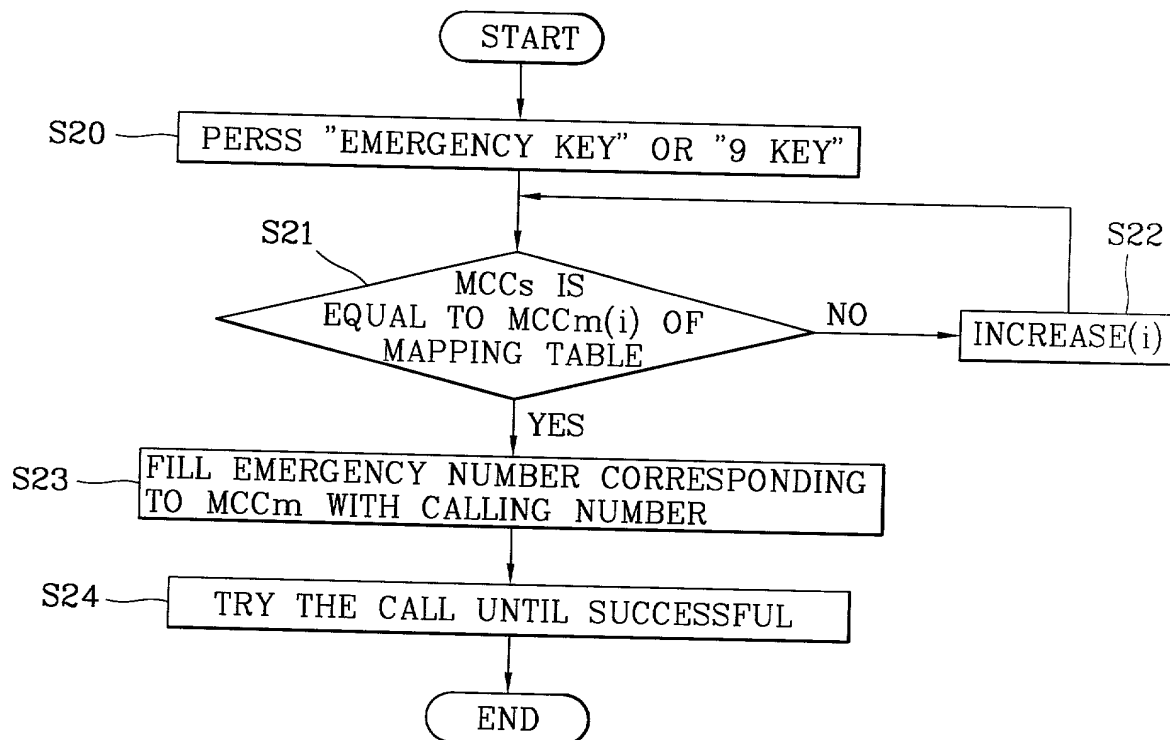


FIG. 5

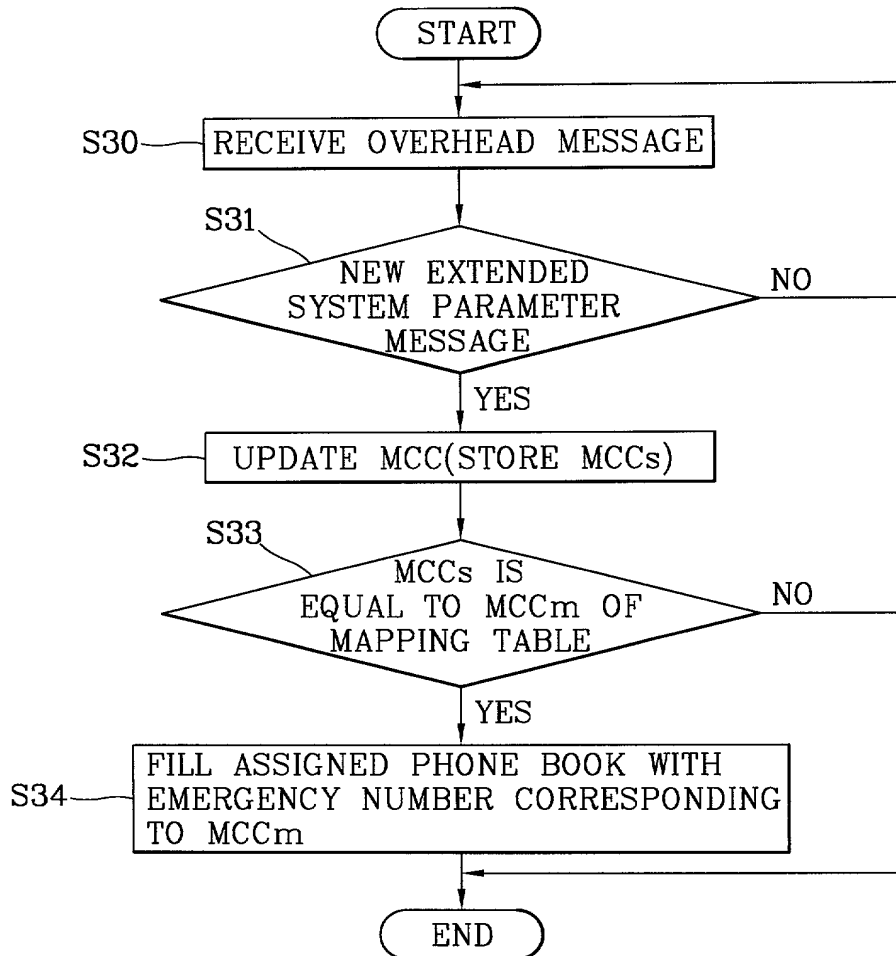
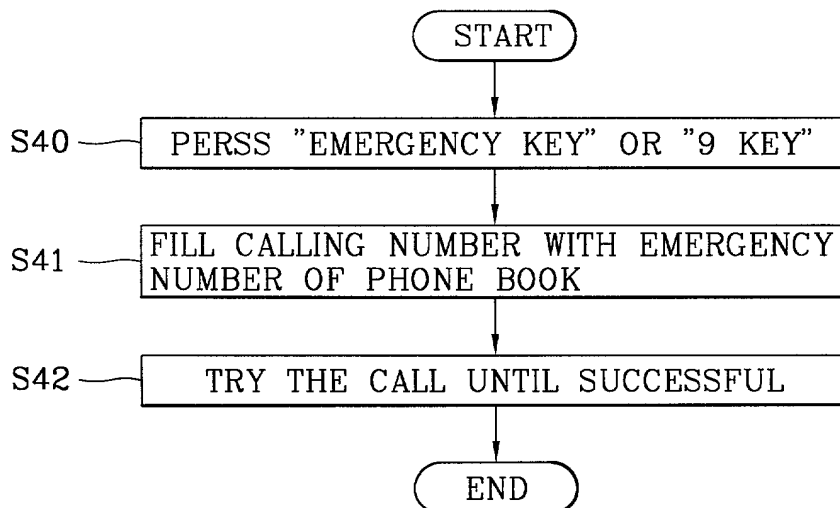


FIG. 6



Docket No.

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter claimed and for which a patent is sought on the invention entitled METHOD FOR TRANSMITTING EMERGENCY CALL OF MOBILE PHONE, the specification of which

☒ is attached hereto ☐ was filed on _____ as Application Serial No. _____ and was amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability in accordance with Title 37, Code of Federal Regulations, Section 1.56(a)

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s):
Number

Country

Foreign Filing Date
Month/Day/Year

41802/1999 _____ Republic of Korea _____ September 29, 1999 _____

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below

Application Number(s)

Filing Date(Month/Day/Year)

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application Designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

Prior U. S. Application
or PCT Patent Number

Filing Date(Month/Day/Year)

Parent Patent Number(if application)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorney(s) and/or agent(s) Daniel Y.J. Kim, Registration No. 36,186 and Mark J. Fleshner, Registration No. 34,596; Carl R. Wesolowski, Registration No. 40,372, John C. Eisenhart, Registration No. 38,128, and Rene A. Vazquez, Registration No. 38,647; Michael J. Cornelison, Registration No. 40,395; and Stuart I. Smith, Registration No. 42,159, all of

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